

IN THE CLAIMS

1. Device comprising:

5           a receiver comprising at least a first receiving chain for receiving and processing radio frequency signals in a first frequency band and a second receiving chain for receiving and processing radio frequency signals in a second  
10           frequency band;

at least a first antenna which is connected to said first receiving chain and in addition via a switching component to said second receiving chain;

15           a tuning component for shifting a frequency response of said first antenna from said first frequency band to a second frequency band; and  
20           a controlling portion causing said tuning component to shift said frequency response of said first antenna from said first frequency band to said second frequency band and causing said switching component to connect said first antenna to said second receiving chain, in case a wideband noise is expected in said first frequency band.

25           2. Device according to claim 1, further comprising a communication system transmitter for transmitting signals via a radio interface, wherein a transmission of signals by said communication system transmitter causes wideband noise in said first frequency band,  
30           and wherein wideband noise in said first frequency band is expected by said controlling portion whenever

said communication system transmitter is transmitting signals causing wideband noise in said first frequency band.

- 5    3. Device according to claim 1, further comprising a second antenna, which second antenna has a frequency response at said second frequency band and which second antenna is equally connected via said switching component to said second receiving chain,  
10    wherein said controlling portion causes said switching component to disconnect said second antenna from said second receiving chain, in case a wideband noise is expected in said first frequency band.
- 15    4. Device according to claim 3, wherein said controlling portion causes said switching component to connect said first antenna to said second receiving chain and to disconnect said second antenna from said second receiving chain, in case a wideband noise is expected  
20    in said second frequency band.
5. Device according to claim 4, further comprising a communication system transmitter for transmitting signals via a radio interface, wherein a transmission of signals by said communication system transmitter causes wideband noise in said second frequency band, and wherein wideband noise in said second frequency band is expected by said controlling portion whenever  
25    said communication system transmitter is transmitting signals causing wideband noise in said second frequency band,  
30    and wherein said controlling portion causes said switching component to disconnect said second antenna from said second receiving chain, in case a wideband noise is expected in said first frequency band.

6. Device according to claim 1, wherein said receiver is  
a Global Positioning System receiver for receiving  
and processing Global Positioning System signals  
transmitted by Global Positioning System satellites.

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7. Device according to claim 6, wherein said first  
frequency band is a Global Positioning System L1 band  
and wherein said second frequency band is one of a  
Global Positioning System L2 band and a Global  
Positioning System L5 band.

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8. Method for improving the performance of a receiver,  
which receiver comprises at least a first receiving  
chain for receiving and processing radio frequency  
signals in a first frequency band and a second  
receiving chain for receiving and processing radio  
frequency signals in a second frequency band, wherein  
at least a first antenna is connected to said first  
receiving chain and in addition via a switching  
component to said second receiving chain, said method  
comprising:

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determining whether a wideband noise is  
expected in said first frequency band; and  
shifting a frequency response of said first  
antenna from said first frequency band to a second  
frequency band and causing said switching  
component to connect said first antenna to said  
second receiving chain, in case a wideband noise  
is determined to be expected in said first  
frequency band.

9. Method according to claim 8, wherein said receiver is comprised in a single device with a communication system transmitter, a transmission of signals by said communication system transmitter causing wideband noise in said first frequency band, and wherein determining whether a wideband noise is expected in said first frequency band comprises detecting whether said communication system transmitter is transmitting signals via a radio interface.

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10. Method according to claim 8, wherein a second antenna is connected to said receiver, which second antenna has a frequency response at said second frequency band, said method further comprising preventing a processing of radio frequency signals received via said second antenna, in case a wideband noise is determined to be expected in said first frequency band.

15 20 11. Method according to claim 10, further comprising:

determining whether a wideband noise is expected in said second frequency band;

25 enabling radio frequency signals in said second frequency band received via said first antenna to be processed by said receiver, in case a wideband noise is determined to be expected in said second frequency band; and

30 preventing a processing of radio frequency signals received via said second antenna by said receiver, in case a wideband noise is determined to be expected in said second frequency band.

12. Method according to claim 11, wherein said receiver  
is comprised in a single device with a communication  
system transmitter, wherein a transmission of signals  
by said communication system transmitter causes  
5 wideband noise in said second frequency band, and  
wherein determining whether a wideband noise is  
expected in said second frequency band comprises  
detecting whether said communication system  
transmitter is transmitting signals via a radio  
10 interface.
13. Method according to claim 8, wherein said receiver is  
a Global Positioning System receiver for receiving  
and processing Global Positioning System signals  
15 transmitted by Global Positioning System satellites.
14. Method according to claim 13, wherein said first  
frequency band is a Global Positioning System L1 band  
and wherein said second frequency band is one of a  
20 Global Positioning System L2 band and a Global  
Positioning System L5 band.
15. Mobile telephone with global positioning system (GPS)  
receiver capability, comprising:  
25 a receiver having an antenna for receiving and a  
processor for processing GPS signals received at  
least in a first frequency band;  
a tuning component responsive to a control signal  
for shifting a frequency response of said antenna  
30 from said first frequency band to a second frequency  
band; and

a control responsive to operation of said telephone acting as a radio transmitter for providing said control signal.

- 5    16. Apparatus for improving the performance of a receiver, which receiver comprises at least a first receiving chain for receiving and processing radio frequency signals in a first frequency band and a second receiving chain for receiving and processing  
10      radio frequency signals in a second frequency band, wherein at least a first antenna is connected to said first receiving chain and in addition via a switching component to said second receiving chain, said apparatus comprising:  
15            means for determining whether a wideband noise is expected in said first frequency band; and  
              means for shifting a frequency response of said first antenna from said first frequency band to a second frequency band and causing said switching  
20            component to connect said first antenna to said second receiving chain, in case a wideband noise is determined to be expected in said first frequency band.